

12.3.1 Geometric Series

Name _____

Part 1: Fill in each table. Then write a rule for the n^{th} term in the sequence.

n	1	2	3	4	5	6	7	8	Rule: n
t(n)	2	10	50						

n	1	2	3	4	5	6	7	8	Rule: n
t(n)	10	15	22.5	33.75					

n	1	2	3	4	5	6	7	8	Rule: n
t(n)	30	36	43.2	51.84					

***The rule for any term in a geometric sequence can be written in the form: _____**

Find the sum of the first eight terms for each of the sequences. Are there any shortcuts you notice?

Table 1: _____

Table 2: _____

Table 3: _____

Part 2: Jackpot

Option 1: Receive a single payment of 51% of the jackpot right away. Invest the money and earn 4% compounded annually.

Option 2: Receive payments once a year for 20 years. The first payment is \$1,500,000 and the payments increase by 5% each year.

Year	Money
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Total: _____

Year	Money
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

Total: _____